

Snout-vent lengths, in millimetres, of all elapsing pairs are shown in Table 3.

TABLE 3.—CLASPING PAIRS TAKEN FROM THE BREEDING CONGRESS SHOWING THE USUALLY LARGER SIZE OF THE FEMALE IN EACH PAIR.

C. platycephalus	♂	59.8	60.5	62.1	52.5				
	♀	63.5	62.4	63.4	49.7				
C. cultripes	♂	42.7	42.8						
	♀	46.5	46.6						
L. spenceri	♂	42.3	39.2	37.5	39.6	41.5	42.3	40.9	40.4
	♀	44.0	40.6	43.6	40.0	42.0	40.9	43.8	41.3
						39.0	42.7	42.7	44.8
						46.5	40.3	44.0	43.7

Measurements of all species were plotted on histograms. These tend to follow a normal distribution. No class is excessively abundant or rare and so it has not been possible to discern either age or size classes reflecting periods of good or poor recruitment to the population.

DISCUSSION

From Table 1 it is apparent that *L. spenceri* is the commonest frog in the locality and it is of interest that it was also the commonest frog reported in the earlier paper (Lindgren, *op. cit.*). Nevertheless it is apparent that the earlier collection was not representative of the unexpectedly rich frog fauna of the area. Main *et al.* (1959) showed the Jigalong area as being occupied by four genera. The present collections indicate that five genera and six species occur in the vicinity. Some of the faunal richness is undoubtedly due to the presence of the water courses as all, except *Notaden nicholli* and *Neobatrachus*, are more or less restricted to water courses. An additional species which might be expected from the locality is *N. centralis* Parker.

Of the species reported from Jigalong *H. rubella* is wide spread. *C. platycephalus* and *L. spenceri* occur as far south as 30 miles north of Menzies. *N. nicholli* and *C. cultripes* must be near their southern limit. *N. sutor* has not been recorded further north and has not been collected again until south of Menzies.

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V. ABORIGINAL FLORA AND FAUNA NAMES

By ERIC LINDGREN.

INTRODUCTION

Three dialect groups of the Western Desert language are represented at Jigalong. These are known among the aborigines themselves at Katatjara, Mantjiltjara and Putitjara, but elsewhere in the great Western Desert region are known by "nicknames" de-

pending upon idiosyncracies in the language, thus the Jigalong people are spoken of by the Warburton Range aborigines as *piniritjara*, *piniri* being the local word for "run" and differing from the Warburton *kukura* (Douglas, 1958). Numerically the *Katatjara* are the strongest, the numbers at a census taken in camp on November 16, 1959, being 45 males and 55 females, including children. There were 40 males and 53 females in the Mantjiltjara group and only one male and two females in the Putitjara.

The three dialects are basically similar, roughly 50% of the vocabulary being identical, but with the intermingling in the close confines of the mission a mixed language has originated. Superficially many irregularities appeared in my early attempts to record the language but once the distinction between the dialect groups was understood recording became much easier and clearer. This was assisted by the fact that the two main groups maintained separate camping areas, the *Katatjara* being on the west side of Jigalong Creek and the Mantjiltjara on the east side. The few Putitjara camped with relatives among the *Katatjara*.

Originally the tribal boundaries were to the east and north of the land at present regarded as the home ground. *Katatjara* ranged all round Lake Disappointment, which they knew as *Walu*, Mantjiltjara were much farther to the north, apparently meeting the Wanmatjiri on their northern boundaries and ranging south along the general area of the Canning Stock Route to the northern boundary of the *Katatjara*. Putitjara people lived directly to the south and west of the *Katatjara* in the vicinity of Savory Creek. This was known to them as *yunuru* and to the *Katatjara* as *kupayura*. With the establishment of the mission at Jigalong in 1945 it became a focal point at which these people could obtain regular food and clothing and a general drift to the westward resulted, small parties arriving at the mission from the desert throughout the years.

A start was made recording the language during nature walks with the children from school but it soon became apparent that a reliable alphabet was needed. This problem was solved by Douglas' work, "An Introduction to the Western Desert Language," University of Sydney, 1958. To make the following lists clearer a modified copy of this alphabet is given here.

A. Sounds having English equivalents.

1. Those comparatively easy to produce:

m as in mat	mama "father"
n as in nut	wana "digging stick"
l as in lot	yalu "liver"
r as in rake	waru "fire"
w as in wet	wiya "no"
y as in yet	yuwa "yes"
i as in radio	yiwara "road"
a as in father	yapu "rock"
u as in put	nguntju "mother"

2. Those presenting difficulties:

p as in spike	papa "dog"
t as in stake	kata "head"
k as in skate	kapi "water"
ng as in singer	ngura "camp"
r as in run (Seoteh trilled)	waru "rook wallaby"

B. Sounds not having English equivalents.

1. **Dentals** (tongue between teeth before a and u, behind teeth before i and preceding or following a non-dental consonant).

tj as in katja "son"
ny as in nyangu "saw"
ly as in palya "right"

2. **Long vowels** (twice normal length).

i: as in wi: lyka "native eat"
a: as in nya: ku? "what for?"
u: as in pu: nu "blew it"

3. **Retroflex consonants** (tongue turned up)*

ṭ as in wata "tree"
ṇ as in pana "ground"
ḷ as in malu "kangaroo"

Stress: Primary syllable stress always occurs on first syllable of the word.

*Subscript type conventionally used for these consonants is unfortunately not available in Perth. Throughout this article the letter in solid black represents what should have been printed in subscript type (i.e., the letter with a dot below it).

Unfortunately the language is slowly being lost, each succeeding generation having slightly less knowledge than the preceding. It was found that much early work with the children was unreliable because of their unintentional ignorance, so finally recording was restricted to a reliable informant from each camp and later checked with other individuals of the same dialect group.

Because Putitjara is represented in such small numbers I feel that the words as recorded in the bird list may not be entirely accurate, but include them as a point of interest, and so that any person having the opportunity can check their accuracy.

The following are the word lists:

Where the dialect distinction is not known the word in general use about the mission is listed. All those marked * are used as food, the part eaten being named in the ease of plants.

MAMMALS

English	Scientific	Katatjara	Mantjiltjara
Fur			Panku
Tall			Ngurpura
*Echidna	Tachyglossus aculeatus	Tjilkamata	Mangana
Marsupial Mole	Notoryctes sp.	Mantangangara	Mantararapa
Native Cat	Dasyurus or Satanelus sp.	Winmintjl	Ngangalpa

English	Scientific	Katatjara	Mantjijltjara
Possum	Trichosurus vulpecula	Wayuta	Wayuta
Bandicoot (?sp.)		Makura	Mingatjuru
*Marsupial Mouse	Sminthopsis sp.	Tilyku	Tilyku
*Hill Kangaroo [Euro]	Macropus robustus	Yapuri : tja	Yapuri : tja
*Plain Kangaroo [Red]	Macropus rufus	Kalkany Palkari :tja Waringkura Malu Walanya	Wltjunu Malu —
A large boomer		Nyurukita	
*Rock Wallaby	Petrogale lateralis	Tjatl	Pakulyara
Ali Bats		Tjantu	Milanpa
Dog or Dingo	Canis familiaris		Tjantu
*Domestic Cat	Felis catus		Tjutjukulu
*Rabbit	Oryctolagus cuniculus	Mitara	Mitawuna
*Camel	Camelus bactrianus	Malka-malka	Tji : puka
		Mutitiki	

BIRDS (for relevant scientific names see Serventy and Whittell, "A Handbook of the Birds of Western Australia," 1951).

English	Katatjara	Mantjijltjara	Putitjara
Bird	Pilun	Turu	
Wing	Mina	Willi	
Feather	Wuna	Nyalpi	
Egg	Tjanytji	Ngampu	
Nest	Tjanku		
Emu	Kalaya	Kalaya	Kalaya
Quail (sp?)	Pulparu	Pulparu	Pulparu
Diamond Dove	Kulakuku	Kulakuk	Kulurukun
Common Bronze-wing	Mau-kra	Mau-kra	Mau-kra
Spinnifex Pigeon	Munkutakuta	Munkutakuta	Munkutakuta
Crested Pigeon	Pukatina	Pukatina	Kalpi
Black-tailed Native Hen	Nuntikanan	Nyuntikanan	Nyuntikanan
Pelican	Tjutara	Tjutara	Tjutara
Banded Plover	Kirki kl : n kl : n	Kirki kl : n kl : n	Kirki kl : n kl : n
Black-fronted Dotterel	Llmpi	Llmpi	Llmpi
Australian Dotterel	Pitunkra	Pitunkra	Pitunkra
Bustard	Nalpintji	Nganutl	Nganutl
White-faced Heron	Tarkaru	Tarkaru	Tarkaru
All Ducks	Kukakura	Tji : puluka	Kukakura
Wedge-tailed Eagle	Walatu	Ngutula	Winkirt
	Walawuru	Kunturu	
Fork-tailed Kite	Tjunin	—	Pinanyka
Kestrel	Winti-winti	Winti-winti	Winti-winti
Boobook Owl	Kur-kur	Kur-kur	Ngunatji
Little Corella	Kl : niri	Ngagalyalya	Kl : niri
Galah	Pl : arku	Tiwa-tiwa	Pl : arku
Cockatiel	Turir	Turir	Turir
Alexandra Parrot	Pilpal	Tumpura	Pilpal
Twenty-eight Parrot	Tuntrun mata	Tuntrun mata	Tuntrun mata

English	Katadjara	Mantjiltjara	Putitjara
Budgerigah Frogmouth	Kulykilykari Pl : wi	Ngatatjlri	Kulykilykari Pl : wi Nguri Lun
Red-backed Kingfisher	Lun	Lun	Lun
Rainbow-blrd	Tirun-tirun	Tlrun-tirun	Tirun-tirun
Pallid Cuckoo	Pulatutu	Pulatutu	Pulatutu
Fairy Martin	Tjuntjanganluku	—	—
Tree Martin	Kintilyka	Kurawaka	Kintilyka
Willy Wagtail	Tjiti-tjiti	Tjinta-tjinta	—
¹ Crested Bell-bird	Wanpanpalala	Panpanpalala	Panpanpalala
Magpie Lark	Ti : wil-ti : wil	Ti : wil-ti : wil	Ti : wil-ti : wil
Black-faced Cuckoo-shrike	I : luru	I : luru	I : luru
Ground Cuckoo-shrike	Walputatjara	—	—
Grey-crowned Babbler	Turtu-wata	Turtu-wata	Turtu-wata
Crimson Chat	Pili : titi	Pili : titi	Pili : titi
All Wrens	Tjiltjlilka	Tjiltjlilka	Tjiltjlilka
Masked Wood-Swallow	Tjitatjalpi	Tjalpintari	Tjitatjalpi
Black-faced Wood-Swallow	Wakatjalpi	Wakatjalpi	Wakatjalpi
¹ Red-browed Pardalote	Wanpanpalala	Wanpanpalala	Wanpanpalala
White-plumed Honeyeater	Intatjara	Intatjara	—
Mlner	Pl : n-pl : n	—	—
Pipit	Puri-puri	Puril-puril	Puril-puril
Zebra Finch	Nyinyinka	Nyi : nyl	Nyinyinka
All Crows	Ka : nka	Wankuna	Wankuna
	Wankuna	Tjilkilata	Wa : ku
Black-throated Butcher-bird	Kakaraputa ² Kurparu	Kakaraputa Kurparu	Kakaraputa Kurpantji

¹ Seemingly anomalous but both birds were heard called this on many occasions.

² Derived from kakara meaning east as it is the bird whose loud notes are easiest heard at sunrise.

REPTILES and AMPHIBIA

English	Scientific	Katadjara	Mantjiltjara
Snake		Tjila	Kanatji
*Children's Python	Liasis childreni	Witu	Ngantjanpa
*Black-headed Python	Aspidites melanocephalus	Purayura	Purayura
*Gwardar	Demansia nuchalis	Wata-wata	Wata-wata
Five-ringed Snake	Demansia modesta	Kirkirpa	Kampapay
*Mountain Devil Banded Skink	Moloch horridus Lygosoma monotropis	Kataputa Tjaluli	Witiri —
Striped Skink	Lygosoma leonhardtii	Mullintjara	Muntjilingkara
2-legged Worm-lizard	L. bipes	Katapintl	Pula-yalil

English	Scientific	Katatjara	Mantjiltjara
*Northern Blue Tongue	Tiliqua ocellipitalis multifasciata	Lungkuta	
All Geckos		Pi : n	Kanpartja
*Netted Dragon	Amphibolurus reticulatus	Pala-pala	Ka : nu
Rock Dragon	Amphibolurus caudineinctus	Mani	
Dragon	Amphibolurus murieatus	Mantanta	Putarpa
		Nga : kata	
		Talykintari	
*Water Dragon	Physignathus longirostris	Kurawara	Tjintjalpi
		Nantalpina	
Wood Varanus	V. caudolineatus	Wiru	Milyu Wirul
	*V. acanthurus	Yalapara	
	*V. gouldi	Nati	Panapanti
		Plurur	Tjintjilla
	*V. giganteus	Marantu	Panangu
			Kunaki : pin
Tortoise	*Chelodina steindachneri	Wuku	Yakuli
Tadpoles			
Frog			Wipu-wipu
			Nan-kra
			Nganmalya

INSECTS and ARACHNIDS

English	Katatjara	Mantjiltjara
Fly	Mu : ngu	Ngurinpa
Maggot	Pilu	
Mosquito		
	Kimirlitji	
	Kimirikin	
Louse		Pula
Grasshopper	Puntalka	Tjartjun
Cockchafer		
	Mupltata	
*Edible root grubs	Lunkl	
Butterfly	Na-mina-mina	Wira-pinta-pinta
Cockroach		Kumpi-tjir-tjir
Ant	Plnga	Plnga
*Honey Ant		
Termite	Ukata	
Edible Galls	Manturpa	
Inedible Galls	Tarun	
Scorpion	Putar	
Centipede	Wana	Wanamilyka
Spider	Waralyarin	Ta : pirl

PLANTS

English	Scientific	Katatjara	Mantjiltjara
Tree		Wata	Wata
Leaf		Mipi	Parka
Flower		Purung	
Fruit		Wamula	
Seeds		Wilyki	
Root		Wanal	
		Kunaluru	
	Cassia desolata		
	Acaela aneura	Wanari	Wintamara
	*A. tetragonophylla	Karara	
	(green seeds)		
	Acaela spp.	Wantan	
		Tjilylli	
		Putar	

English	Scientific	Katatjara	Mantjijltjara
	<i>Eucalyptus camaldulensis</i>	Wurangka	Walytjl
	<i>Eucalyptus</i> spp.		Klta-klta Pana-pana Nyinpingka Kuran-kuran
	<i>Eremophlla</i> sp.		
	* <i>Solanum lasiophyllum</i> (fruit skin)		
	* <i>S. quadrilocatum</i> (fruit skin)		Pilytjlwin
	* <i>Solanum</i> spp. (fruit skin)		Kuntunga : pala
	<i>Trilodla irritans</i>	Paru	Mankalpa
	* <i>Hakea lorea</i> (nectar)		Wamula
	* <i>Marsdenia australis</i> (green seeds)		Kalkula
	* <i>Cynanchum floribundum</i> (green seeds)		Wanyan
	* <i>Calestegla sepium</i> (tuber)		Mata
	* <i>Plectronia latifolia</i> (berry)		Nganungu
	* <i>Ficus puberula</i> (ripe fruit)		Kunawinka
	* <i>Loranthus</i> spp. (ripe fruit)		Millylyu
Sturt Pea	<i>Cilanthus speciosus</i>		Malukuru
	<i>Santalum spicatum</i>		Tartja
Blackboy	<i>Xanthorrhoea</i> sp.		Nyuntullri

NOTES ON SOME WADERS IN SOUTH-WESTERN AUSTRALIA

By C. F. H. JENKINS, M.A.

The Swan River Estuary and the numerous adjacent swamps have provided an ideal habitat for migratory waders and resident water birds for a very long time. In more recent years, however, rapid changes have taken place in the metropolitan area involving the reclamation of river foreshores and the "improvement" or filling of numerous swamps. Already Perth Water is almost completely enclosed by a stone wall, and the same applies to the north side of Melville Water from the Narrows Bridge to Nedlands.

It was with great interest and concern, therefore, that local naturalists watched bulldozers and dredges go into action along the river frontage at Como and South Perth in preparation for the Kwinana Freeway. Eucalypts, paper barks and rush flats were sacrificed in the cause of progress, and a once attractive shore line was reduced to a sandy waste. Fortunately, however, no retaining wall was erected in this part of the river and shelving beaches and broad shallows still provide ideal feeding grounds for water birds of